UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This communication is in response to the Amendment to Application 10/564,866 filed 6/29/11.

Response to Arguments

2. Applicant's arguments filed 6/29/11 have been fully considered but they are not persuasive.

A. Magee Fails to Disclose Multi-carrier signals

4. Applicant argues that Magee fails to disclose multi carrier signals as recited in claim 15 (Remarks, page 6). Examiner notes that The "Multi carrier signal" is not given any patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recited the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness, but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao, 535 F.2d* 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie,* 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

B. Magee Fails to disclose correcting pilot tones

5. Applicant argues Magee fails to disclose correcting pilot tones as claimed (Remarks page 6-7).

6. Magee also discloses independently correcting at least one of the pilot, in phase and amplitude, and as a function of said first estimate, to output a corrected pilot with phase and amplitude correction, said correction step including a step to calculate an

amplitude and phase error vector for each of said at least one reference pilot. (The

channel estimator may provide additional correction, based on channel responses at the

training tones, to the impulse response, such as amplitude and phase correction,

Examiner again emphasizes that it is performed for each burst, so the process is being

performed independently, as shown in Fig. 4, the process is performed with use of

creating offset vector, Although, only phase vector is shown but the description

discloses that the additional correction such as amplitude can be performed).

C. Magee Fails to disclose Time/Frequency Interpolation on said Extracted at least one Reference Pilot.

7.   Applicant argues that Magee Fails to disclose Time/Frequency Interpolation on

said Extracted at least one reference pilot.

8.   First, Magee teaches as extracting said at least one reference pilot present in

each of said symbols. As shown in Fig. 1 and disclosed in paragraph 23, The channel

estimator 20 extracts pilot tones (e.g., training tones) from the frequency domain signal

and then performs an IFFT to get the channel impulse response for a data burst. The

data burst is a time period which can contain one or more symbols or packets as known

in the art.

9.   Magee also discloses obtaining first estimate of said propagation channel by

time/frequency interpolation on said extracted at least one reference pilot. As described

above Magee teaches extracting pilot (so it teaches extracting at least one reference

pilot), and also as shown in Fig. 1 and Fig. 2 and Fig. 7 and disclosed in paragraph 23

and paragraph 77, the channel estimator extracts pilot tones from the frequency domain

signal and then performs an IFFT to get channel impulse response for a data burst.

Then the current impulse response is zero padded at 712 (Fig. 2 and Fig. 7). Frequency

domain interpolation is performed at 714 by computing a FFT of the current channel

impulse response (paragraph 77). This is the first estimate as claimed (since it is

performed using frequency interpolation).

D. Magee Fails to Disclose a Second Estimate of Said Propogation Channel, by Analysis of Said Corrected Pilot.

10.   Magee also discloses obtaining second estimate of propagation channel, by

analysis of said corrected pilot (As shown in Fig. 3, the corrected response is stored and

fed back to compare with the current impulse response, so the Examiner interprets as

the second estimate). Examiner further includes even if Examiner agree with the

applicant that fed back portion can not considered as the second estimate the as shown

in Fig. 1, the output of the channel estimator is fed to a data demodulator 22 and then

fed to the data postprocessing which performs error correction utilizing the information

provided by the data demodulator 24 in addition to providing block or packet formatting.

Examiner believes in order to perform the second correction the data has to be

estimated.

II.   Rejection Under 103

A. Claim 20.

11.   Applicant's arguments regarding claim 20 is persuasive and Claim 20 is objected
to as being dependent upon a rejected base claim, but would be allowable if rewritten in
independent form including all of the limitations of the base claim and any intervening
claims.

B. Claim 26

12.   Applicant's arguments regarding claim 26 is persuasive and Claim 26 is objected
to as being dependent upon a rejected base claim, but would be allowable if rewritten in
independent form including all of the limitations of the base claim and any intervening
claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to TANMAY SHAH whose telephone number is (571)270-
3624. The examiner can normally be reached on Mon-Thu (7:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, David Payne can be reached on 571-272-3024. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

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/TANMAY K SHAH/
Examiner, Art Unit 2611